

REMARKS

Claims 1-29 were pending in this case; all stand rejected. Reconsideration is requested.

1. Claim Objections

Claim 1 is objected to due to the repetition of “method of copy protecting the optical disc”. Claim 1 has been amended to overcome this rejection.

2. Claim Rejections – 35 USC §112

Certain claims stand rejected under 35 USC §112.

Per Claims 5, 14 and 25, the Examiner rejected these claims due to the term “significant” being a relative term which renders the claim indefinite. These claims have been amended. For instance, see Claim 5 which now recites “the DSV has an absolute value significantly greater than usual.” Each of Claims 14 and 25 is identically amended. This reads on the published specification paragraph 13 which states “In an embodiment, the data patterns are chosen to ensure that the DSV has a significant absolute value, that is, as an absolute magnitude which is significantly greater than would be usual.” By “usual” here it is well understood this refers to here, e.g., more than is normally readable by a disc writer. Since it is well known that the DSV should ideally stray as little as possible from the zero level, it is known that any absolute magnitude in excess of the value of, e.g., one will be significant. Hence the terms “usual” and “significantly” are well defined.

Hence this rejection is overcome.

Next, the Examiner rejected Claims 8, 17 and 28 under §112 due to the term “rapid” which Examiner indicated is a relative term which renders the claim indefinite. This rejection is traversed. To the contrary of what the Examiner states, the specification does indeed provide a standard for ascertaining the requisite degree of rapidity to meet the claim. As is well known in the field, the run length limiting rules require that no pits or lands on an optical disc are shorter than 3T. This defines the highest allowable frequency associated with these rules. Thus, if the rate of change

of the DSV is higher than the frequency associated with a 3T pit, it is “rapid”. This is explained in the published specification at paragraph 63 which it states “A 3T pit has the highest signal frequency. . .” (in, of course, readable data). Hence the term “rapid” would exceed this frequency thus being not readable by a CD writer. Hence this rejection is traversed and it is requested that it be withdrawn.

Next, the Examiner rejected Claims 9 and 18 (and presumably similar Claim 29 although not mentioned) due to the term “substantial” being a relative term which renders the claim indefinite. Each of these claims has been amended for better clarity. Each of these claims now additionally recites “lower than that of the lowest signal frequency that does not cause DSV problems”. See the published specification, paragraph 63 which states for readable data “an 11T pit has the lowest signal frequency. . .” Hence a frequency lower than that of the 11T pit (lower than 190 kHz as stated in paragraph 63) would be a substantial low frequency component meeting the claim. Hence as amended each of these claims clearly conform with 35 USC §112, and it is requested that this rejection also be withdrawn.

Finally, the Examiner rejected Claims 22-23 as reciting the term “generally” as being a relative term. “Generally” has been deleted from Claims 22 and 23, thus overcoming this rejection.

3. Claim Rejections – 35 USC §102

The Examiner rejected Claims 1, 3-9, 11-19 and 21 under 35 USC §102 as anticipated by Hogan. Each of independent Claims 1, 11, 20 has been similarly amended. (It is noted that Claim 20 was not subject to this rejection although for some reason the Examiner rejected here Claim 21 which is dependent upon Claim 20 which was only rejected under another rejection.)

It is respectfully submitted that these claims as amended distinguish over Hogan. In accordance with the invention, an authenticating signature is made up of data patterns arranged to cause, when read, a DSV (digital sum value) which has a rapid rate of change thereby to cause DSV problems for writers of recordable discs (e.g., consumer CD writers). Original Claims 4 and 8 directed to this subject matter are canceled since their subject matter is now incorporated into

amended Claim 1. The Examiner rejected Claims 4 and 8 citing Hogan, however it is respectfully submitted that Hogan does not disclose this subject matter. Claim 8 which recited “a DSV which has a rapid rate of change” is not met by Hogan. The Examiner cited in his Office Action (page 5) Hogan Fig. 3A, Fig. 3B, and column 6, lines 8-25 as meeting Claim 8. It is not seen where in this passage Hogan discloses that the DSV changes rapidly. This passage in Hogan actually points out, see Hogan, column 6, lines 23-25 “. . .DSV accumulates in a negative direction indefinitely, as illustrated in FIG. 3B.” This implies a large absolute DSV number and hence a steadily increasing DSV, rather than any DSV “rapid rate of change” which instead means acceleration or deceleration.

It is also relevant that Hogan requires a special encoder, see Hogan column 5, beginning line 1, in order to apply his data patterns to the disc. Hogan does not even appreciate the possibility of providing DSV data patterns which can be dealt with by, for instance, a sophisticated but conventional (not special) laser beam recorder but which cannot be dealt with by a less sophisticated consumer type CD writer. This important technical distinction between laser beam recorders with their highly sophisticated but conventional encoders and the much simpler encoders used by the consumer type CD writers was recognized by the present inventor and exploited in accordance with the invention. Hence the present invention addresses a different problem than does Hogan. Hogan is concerned with inhibiting copying of digital data but only by consumer type CD writer devices, without relying on the distinction between such consumer type devices and the commercial laser beam recorders. The present claims are directed to exploiting this difference such that the authenticating signature cannot be written by a CD writer which has a limited ability to look ahead during encoding. See the published specification paragraphs 7 and 12 pointing out this distinction in look ahead capacity between laser beam recorder encoders and the CD writer encoders.

Hence the Examiner's rejection of Claim 8, it is respectfully submitted, is not technically correct due to the failure of Hogan to disclose the subject matter of Claim 8 now incorporated in Claim 1 which thereby distinguishes over Hogan. There is clearly no “rapid rate of change” of the DSV disclosed or even suggested by Hogan.

Hence Claim 1 as amended recites "the authenticating signature cannot be accurately written onto a copy disc by a writer for recordable discs which has a limited ability to look ahead during encoding, wherein the data patterns of the authenticating signature are arranged to have a DSV (digital sum value) which has a rapid rate of change, thereby to cause DSV problems for writers of recordable discs." Claim 1 is not met by Hogan and therefore distinguishes thereover.

Other amendments here to Claim 1 including insertion of "arranged" are to improve form, not for reasons of patentability, and not intended to limit the claim.

Claims 2 through 10 dependent upon Claim 1 are allowable for at least the same reasons as the base claim. Other of these claims have additionally been amended to improve form, for instance see the amendments to Claim 2, 3, 6 and 10. Again, any such amendments are not intended to be limiting and are not for reasons of patentability.

Claim 11 directed to the copy protected disc has been amended to recite similar subject matter as added by amendment to Claim 1, including the "rapid rate of change" of the DSV. Claim 11 thereby distinguishes over Hogan for at least the same reasons as Claim 1. Claim 11 has also been amended to improve form similar to Claim 1 and by inserting "data comprising" in the first line. This is not for reasons of patentability and is not intended to be limiting.

All claims dependent upon Claim 11 similarly are allowable over Hogan for at least the same reasons as the base claim. These claims are amended also to improve form and clarity and not for reasons of patentability and not to be limiting. For instance see the amendment to Claim 12 which is to conform better to base Claim 11. Other amendments have been made to for instance Claims 15 and 19 to improve form.

It is not clear if the Examiner also intended to reject Claim 20 (rather than Claim 21) citing Hogan under 35 USC §102. However, in any case, Claim 20 has been amended to recite similar subject matter as Claims 1 and 11 and is allowable over Hogan for at least the same reasons as Claims 1 and 11 as pointed out above.

Claims 20, 22 and 23 stand rejected under 35 USC §102 as anticipated by Newman. As pointed out above, Claim 20 has been amended to recite “the data patterns are arranged to have a DSV which has a rapid rate of change, thereby to cause DSV problems.” Again this is not met by Newman. As pointed out by the Examiner, Newman includes special logical errors in his data but there is no indication this has anything to do with DSV or especially would cause a rapid rate of change of the DSV.

Hence Claim 20 as amended clearly distinguishes over Newman as well as Hogan.

Note that Claim 21 dependent upon Claim 20 has been canceled since Claim 21 subject matter is now incorporated in Claim 20. In any case, the Examiner rejected Claims 22 and 23 as anticipated by Newman, citing Newman column 9, lines 66 through column 10, line 21.

It is respectfully submitted that Newman does not even address the same technical problem as do Claims 22 and 23. These claims are directed to providing a blocking file together with the user (publisher's) data where both files are carried by a pre-mastering recordable disc. This disc is neither the consumer disc (CD) nor the glass master but carries the source data which is then used to produce the glass master. See present Fig. 5 which shows the data 40 which goes to make the glass master 50. Hence the mastering process uses the recordable disc which carries the data 40, see published specification at paragraph 85:

In this respect and as indicated in FIG. 5, during the mastering process, data 40 for the glass master and data 42 for the authenticating signature are provided to an encoder 44 associated with a laser beam controller 46. The controller 46 operates the recording laser 48 to write data to a glass master 50. The data 40 and the data 42 may be provided on respective CD-R's, or on the same CD-R, for example. (Emphasis added.)

Hence the “recordable disc” in Claims 22 and 23 is a disc (e.g. CD-R) carrying the user data 40 and the authenticating signature blocking file 42. Claims 22 and 23 have been amended to make this clearer. They now refer instead of to “a recordable disc” to “a pre-mastering recordable disc.” See specification paragraphs 41 and 42 referring to the mastering process where it is clear that

this recordable disc exists prior to the actual making of the glass master. Hence addition of the term “pre-mastering” to Claims 22 and 23. These claims are directed to the input to the mastering process itself and not to the product thereof in terms of the glass master or consumer discs.

In contrast, Newman is solely concerned with the information on a consumer type copy protected disc. While Newman briefly discusses the conventional aspects of the well known mastering process, see his Fig. 6, there is no suggestion to provide an authenticating signature together with the user data 61 (software) in his Fig. 6. Hence Newman does not address the same technical problem as Claims 22-23, much less does provide the same solution.

Moreover each of Claims 22-23 have been amended. Now Claim 22 recites “wherein the data patterns cause DSV (digital sum value) problems for a disc drive.” A similar amendment has been made to Claim 23. Again Newman does not disclose anything like this but instead discloses providing particular types of logical errors rather than trying to create a problematic DSV. See for instance, Newman column 2, beginning line 1:

For this purpose a method for copying protecting a record carrier as described in the opening paragraph, is characterized according to the invention in that in the producing step bits in the bit sequence are changed according to the access control information to constitute logical errors which cannot be corrected by said error correcting rules and which constitute an error pattern. (Emphasis added.)

Therefore Newman discloses tricking the error correction logic in the CD writer attempting to make a copy, rather than to disturbing digital sum values in accordance with the present invention. Hence Claim 22 as amended distinguishes over Newman, as does Claim 23.

Note that Claim 22 has also been amended to better clarify same. See the reference to “user data” and deletion of certain other words. These amendments are not for reasons of patentability and not intended to be limiting. Similar amendments have been made to Claim 23, again not for reasons of patentability.

Claims 25-29 dependent upon Claim 23 are allowable for at least the same reason as the base claim. Additionally, some of these claims have been amended to improve form and to conform

to the base claim, for instance see Claims 26 and 28. These amendments are not for reasons of patentability and not intended to narrow these claims.

4. Claim Rejections – 35 USC §103

The remaining rejections under §103 of Claims 2, 10, 21 and 24-29 are respectfully believed to be moot since these are all dependent claims otherwise allowable.

CONCLUSION

Therefore it is respectfully submitted that all currently pending claims which are now Claims 1-3, 5-7, 9-12, 14-16, 18-20, 22, 23, and 25-29 are in condition for allowance and allowance thereof is requested.

In view of the above, all presently pending claims in this application are believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue. If it is determined that a telephone conference would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.


This paper is filed under Rule 34. The correspondence address remains that of Macrovision Corporation.

In the event the U.S. Patent and Trademark office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time and

authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to the undersigned's Deposit Account No. 03-1952 referencing docket no. 136922003800.

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Respectfully submitted,

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